

The Examiner is respectfully requested to amend the above-identified application as follows:

IN THE CLAIMS

Please cancel Claims 6-8 and 16-18, without prejudice or disclaimer of the subject matter presented therein.

Please amend Claims 1, 3-5, 11, 13-15, 19, and 21-23 to read as follows (a marked-up version of these claims, showing the changes made thereto, is attached).

Sub B1

1. (Amended) A liquid discharge head comprising a heat generating element contacted with and between a pair of electrodes for generating thermal energy which is used for discharging liquid from a discharge port, and a protective coating provided on said heat generating element to protect said heat generating element, wherein said protective coating has a first region with a substantially uniform thickness along a direction connecting said pair of electrodes and a second region with a substantially uniform thickness along the direction, wherein said second region is thinner than said first region, and wherein the volume of a liquid droplet discharged from said discharge port is changed by changing electric energy applied to said heat generating element.

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3. (Amended) A liquid discharge head according to claim 1, wherein said protective coating is composed of plural protective coatings, said first region is composed of said plural protective coatings, and one of said plural protective coatings is removed in said second region.

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4. (Amended) A liquid discharge head according to claim 3, wherein said second region is formed by forming an upper protective coating after etching a lower protective coating.

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5. (Amended) A liquid discharge head according to claim 4, wherein said lower protective coating is composed of phosphosilicate glass film, said upper protective coating is composed of SiN film, and said etching is conducted with buffered hydrofluoric acid.

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11. (Amended) A liquid discharge head comprising a heat generating element contacted with and between a pair of electrodes for generating thermal energy which is used for discharging liquid from a discharge port, a protective coating provided on said heat generating element to protect said heat generating element and a moving member provided facing said heat generating element and having a free end which is displaced in accordance with generation of a bubble due to said thermal energy,  
wherein said protective coating has a first region with a substantially uniform thickness along a direction connecting said pair of electrodes and a second region with a substantially uniform thickness along the direction, wherein said second region is thinner than said first region, and wherein the volume of a liquid droplet discharged from said discharge port is changed by changing electric energy applied to said heat generating element.

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13. (Amended) A liquid discharge head according to claim 11, wherein said protective coating is composed of plural protective coatings, said first region is

composed of said plural protective coatings, and one of said plural protective coatings is removed in said second region.

14. (Amended) A liquid discharge head according to claim 13, wherein said second region is formed by forming the upper protective coating after etching the lower protective coating.

15. (Amended) A liquid discharge head according to claim 14, wherein said lower protective coating is composed of phosphosilicate glass film, said upper protective coating is composed of SiN film, and said etching is conducted with buffered hydrofluoric acid.

19. (Amended) A liquid discharge head according to claim 11, wherein said heat generating element is composed of polycrystalline silicon.

21. (Amended) A liquid discharge apparatus comprising the liquid discharge head according to claim 1 or 11 and a member for mounting said liquid discharge head.

22. (Amended) A liquid discharge method using a liquid discharge head having a heat generating element contacted with and between a pair of electrodes for generating thermal energy which is used for discharging liquid from a discharge port, and a protective coating for protecting the heat generating element, provided on the heat generating element, said protective coating having a first region with a substantially

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uniform thickness along a direction connecting the pair of electrodes and a second region with a substantially uniform thickness along the direction, wherein said second region is thinner than the first region,

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wherein a size of a bubble generated on the heat generating element is changed by changing electric energy applied to the heat generating element to generate a bubble on both the first region and the second region or on only the second region, and wherein the volume of a liquid droplet discharged from the discharge port is changed.

23. (Amended) A liquid discharge method using a liquid discharge head having a heat generating element contacted with and between a pair of electrodes for generating thermal energy which is used for discharging liquid from a discharge port, a protective coating for protecting the heat generating element, provided on the heat generating element and a moving member provided facing the heat generating element and having a free end which is displaced in accordance with generation of a bubble due to the thermal energy, the protective coating having a first region with a substantially uniform thickness along a direction connecting the pair of electrodes and a second region with a substantially uniform thickness along the direction, wherein said second region is thinner than the first region,

wherein a size of a bubble generated on the heat generating element is changed by changing electric energy applied to the heat generating element to generate a bubble on both the first region and the second region or on only the second region, and wherein the volume of a liquid droplet discharged from the discharge port is changed.